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#### Overview

The fall of 2013 over southwest Michigan featured unusually large temperature swings (Figures 1-3) from week to week. Highs in the lower 90s around the 10<sup>th</sup> of September were followed by highs near 60's just a few days later, only to have highs near 90 once again about a week after that. This pattern of unusually warm weather followed by unusually cold weather continued through the fall. The result of this was the mean temperature for the fall averaged near normal (Figure 7) even through the daily temperatures were frequently well above or below normal.

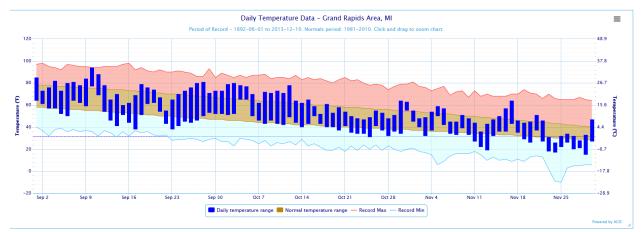


Figure 1. Grand Rapids fall temperatures.

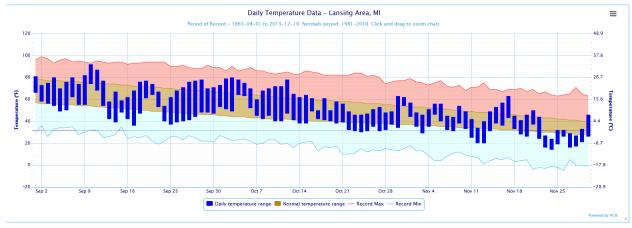


Figure 2. Lansing's fall temperatures

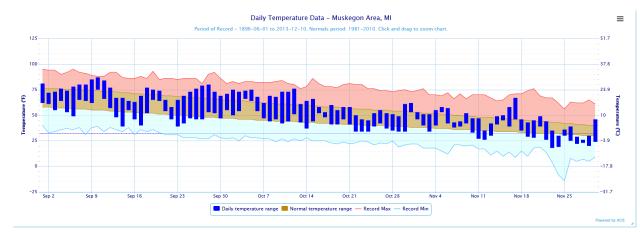


Figure 3. Muskegon's fall temperatures.

Southwest Michigan started the fall with all areas drier than normal, however starting in October more frequent rainfall for the most part erased the precipitation deficit (Figures 4-6) in areas near and west of US-131 (Figure 8).

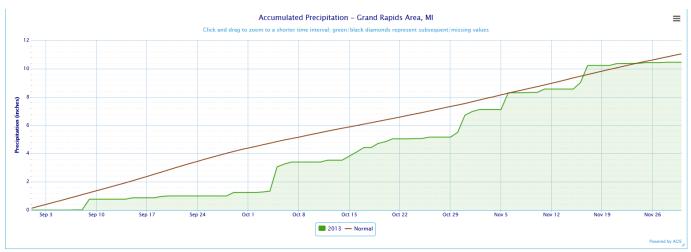


Figure 4. Grand Rapids daily fall precipitation.

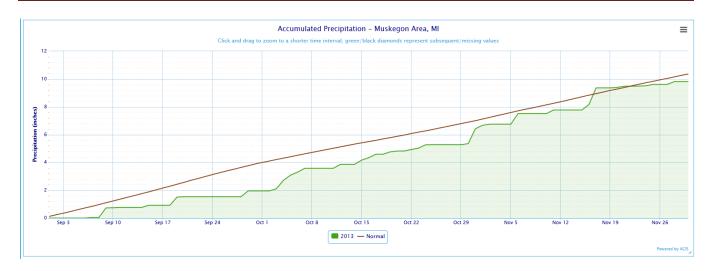


Figure 5. Muskegon's daily fall precipitation



Figure 6. Lansing's daily fall precipitation

Temperatures averaged near normal but the results from periods of well above normal temperatures that were followed by periods of well below normal temperatures (Figures 1-3).

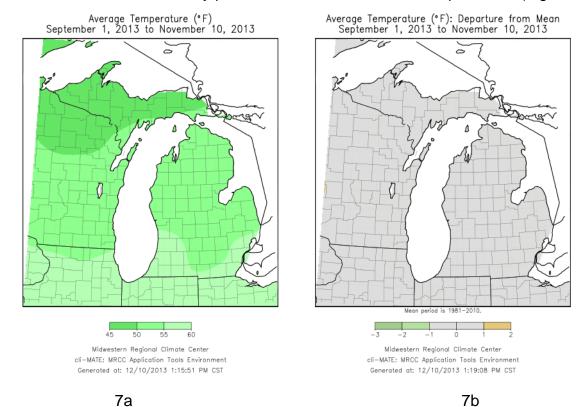


Figure 7. Average temperature (1a) and departure from normal (7b) for fall 2013 for Michigan.

Precipitation was near to above normal near Lake Michigan but below normal inland.

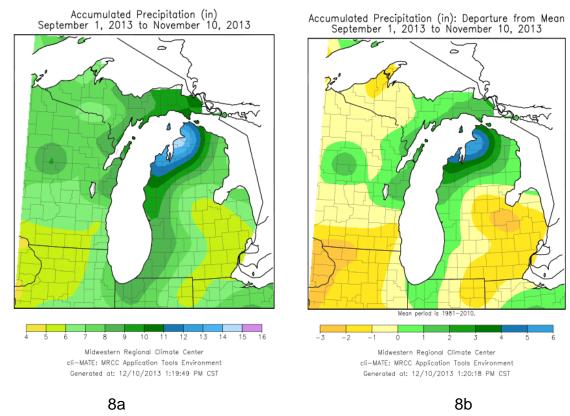
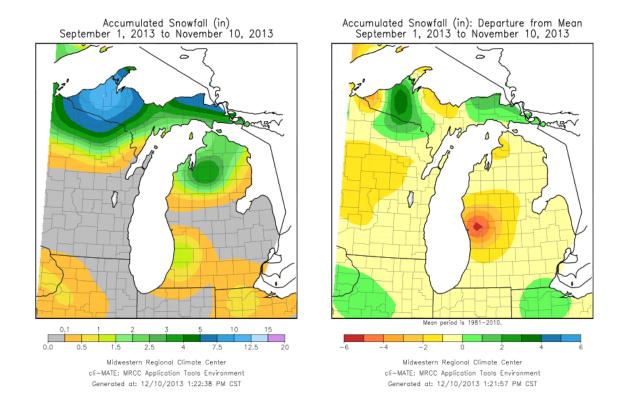


Figure 8. Fall 2013 total precipitation (2a) and departure from normal (2b).

Snowfall was once again well below normal across Southwest Michigan for the 4<sup>th</sup> straight fall.



9a 9b Figure 9. Fall 2013 total snowfall (3a) and departure from normal (3b).

For more details on the monthly statistics and significant weather events, please see the monthly weather summaries listed below:

Grand Rapids Fall 2013 Detailed Climate Summary: GRR Fall Climate Summary

Lansing Fall 2013 Detailed Climate Summary: LAN Fall Climate Summary

Muskegon Fall 2013 Detailed Climate Summary: MKG Fall Climate Summary